Gebrauchsanweisung

turbo-sprayer

Your new turbo-sprayer will give you many years of trouble free operation provided the simple maintenance suggestions are followed. Please pay attention to the following notes. In order to get to know your unit, we suggest that you first carry out a test run with water.

Operating range

The equipment is suitable for control of pests in large spaces by misting and by spraying of liquids (emulsions, suspensions, ready for use solutions). The turbo-sprayer is not suitable for lacquers and paints.

Pest control with the turbo-sprayer: stored product protection

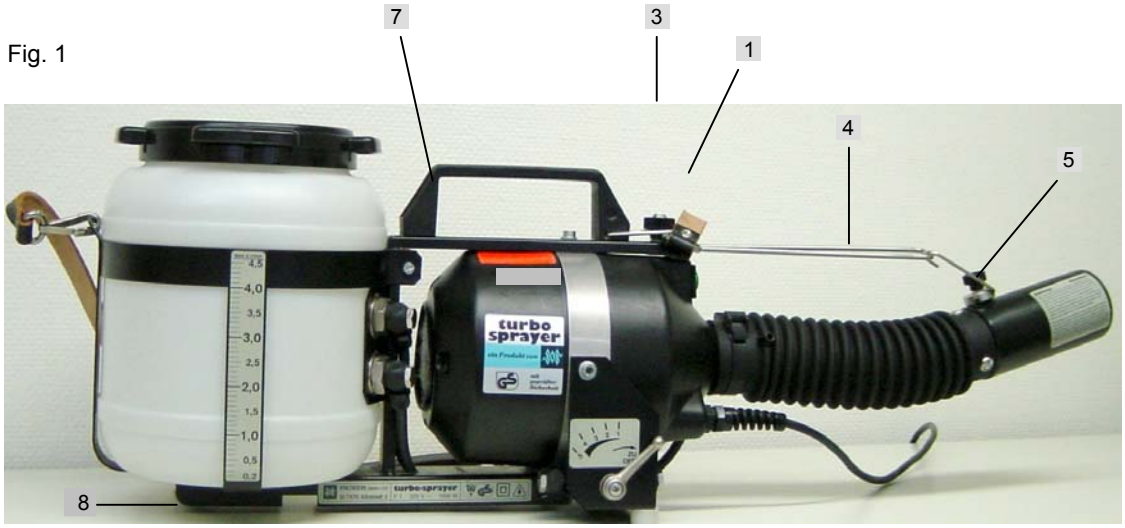
Principle

A high performance two-stage blower, which generates a strong warm air flow, is directly connected to the high powered electric motor. With this system the liquid material is pulled from the container, atomized in the Venturi nozzle and the fine mist is sprayed a considerable distance into the air, or onto the surface which the nozzle port is directed.

The blower pressure in the tank causes an approximately constant performance.

The droplet size depends on the separate control of air flow and the liquid quantity. The turbo-sprayer can produce a wet spray as well as a dry fog (aerosol). The heat of the air flow supports fine atomisation.

Fig. 1



Use

Please observe the sequence and figures on page 3 and 4.

1. Check that the unit is switched off. The push-button (1) on the front side must have jumped out.

2. Set regulating lever of ball valve (2) at the side to „ZU“ (= closed).

3. Fill container (maximum 6 Litre).

4. Put on container lid and close tightly. Only then full performance is furnished.

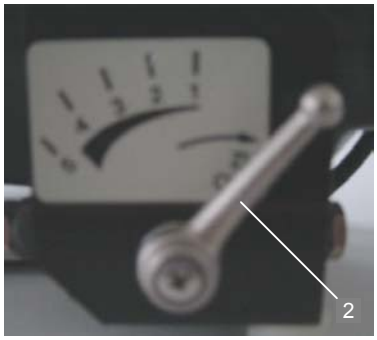
5. Attach device to 220 V, press push-button (1). Motor starts.

For mobile application the unit is carried over the shoulder with the strap. Suspend carrying strap in the retaining clip on the handle and in the screw on the container holder (fig. 1).

For stationary use the spraying nozzle is fixed as follows: Unscrew knurled nut (3) on handle frame. Insert holding clip (4) – which is stored in an underside compartment of the frame (see „8“) – from the front between clamping plate and handle frame. Unscrew the small knurled nut (5) at the front on the spraying nozzle and insert bend of holding clip into the recess of the plate. Retighten knurled nut. Adjust nozzle to required spraying angle by tightening knurled nut (3) on handle.

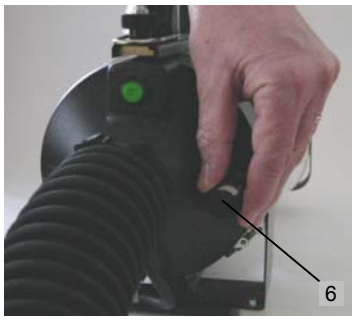
6. Regulation of preparation supply

Gradually open the lever from the ball valve (2). With rising preparation performance the particle size raises, too.
For example: Position 1 = fine / 3 = medium / 5 = coarse.



7. Regulation of air power

Adjust speed as required on the button automatic controller (6). A stronger air flow gives a greater spraying range, and at the same time a smaller droplet size with good suspension properties (space misting).



8. Regulation of particle size

According to point 6 and 7 the particle size can be adjusted in a wide range. The particle size depends also on the condition of the preparation (specific weight, viscosity, temperature).

For treating surfaces generally coarse atomisation and short range is favourable. During finest atomisation (full number of revolutions and minimum preparation supply) the withdrawing nebula jet is visible only with lateral light and before dark background.

9. Output

The output can vary slightly depending on the material. Therefore, the user should adjust the performance of the device in accordance with point 6 and 7 if necessary.

10. Switching off

After finishing work and during breaks, **always close the regulating lever of ball valve (2) for liquids first** and allow the appliance to continue to blow for a short time. **Afterwards, switch off the motor!**

Warning: If the motor is switched off with the regulating lever open, liquid will run out of the container!!!

11. Cleaning and maintenance

Empty the container after completing work. Pour liquid preparation back into the original container! After using emulsions and suspensions rinse out the container thoroughly with water (and possibly with some cleaning agent). Repeat the process. Let the device spray with full performance (preparation and air) for approximately ¼ minute. If water-insoluble products were atomised as for example Detmolin, 808-Reiniger is recommended.

Safety

Consider instruction for use for the preparation exactly. Adhere strictly to the dosing recommendations. Avoid under or overdosages.

Corrosive liquids damage the device and possibly also the room or inventory - spray not in or on electrical outlets, junction boxes or fuse boxes. – Keep the equipment dry. It is not intended for use in wet areas.

Wear a protective mask with suitable filter (preferably against vapors and suspended particles) and protective clothing, if this is specified by the preparation manufacturer.

Do not spray into flames or in presence of other ignition sources. If the spray ignites, switch off regulating lever of ball valve (2) immediately and stop the engine.

Do not spray any easily combustible liquids. Above approximately 40 g/m³ (1 oz/cu.yd) there is danger of explosion. Do not use the appliance for alcoholic disinfectants with more than 10 % alcohol content and flash point under 24 °C (75 °F).

The regulation ZH 1/598 (Carl Heymanns Verlag KG, Luxemburger Straße 449 in 50939 Köln) contains further safety notes concerning the application of alcoholic disinfectants.

Food is to be protected from spraying mist.

Technical examination.

Check the equipment after 100 operation hours on function fitness, damaged cables, exact dosage, leakages, etc.

Faults

Renew damaged cables or plugs. For repairs of electrical parts absolutely send the equipment to our service department in Albstadt (only with completely empty container and not in dismantled state).

Renew the fiber fabric filter (7) on the motor housing from time to time.
Article number: 70600001
= TUR-Motorfilter 5 pieces.

If the venturi nozzle sprays only insufficiently: Remove snap ring of the perforated plate at the spray button. Remove perforated plate and nozzle. Deduct suction hose from the nozzle. (Do not bend nozzle disks!) Clean nozzle.

Technical Data	
Total length	87 cm
Length without spraying nozzle	48 cm
Width	18 cm
Height	30 cm
Weight empty	6,4 kg
Cable length	approx. 4,5 m
Transport case made out of impact resistant, grey plastic	60 x 24 x 40 cm
Current consumption in operating condition (Starting current limitation through electronic smooth start)	1000 W / 4,6 A
Built-in overload fuse	7,6 A
Dripping water protected and doubly insulated = no protective conductor	
Turbine rotary speed	up to 18,000 RPM
Air capacity (freely blowing)	max. 50 ltr / sec.
Preparation output	0 to 34 ltr / hour
Spraying range	up to 30 m
Tank capacity	max. 6 ltr
Residue	30 ml
Mesh size of the filler strainer	1 mm
Micron size range (depending on preparation)	20 - 400 µm

Adapter

Particle size

The usual measure in the atomisation technique is "Micron". A micron corresponds

1/1000	*mm = 0,001 mm*	*= 10^{-3}*	*mm*
1	*µ = 1 My*	*= 10^{-6}*	*m*
0,000001 m	*= 1 micrometer*	*= 1*	*µm*

For illustration purposes: A rain drop has 4000 µm. A human hair is 75 - 100 µm strong, i.e. 10 - 13 are 1 mm.

Atomisation degrees

During atomisation the droplets never have the same size but it develops drop spectra, thus mixtures of drops of different sizes.

Average values serve for characterisation. The linguistic designations of the atomisation degrees are only approximate. One tried to assign certain droplet sizes to each term. Uniformity does not exist. Examples:

Misting	*under 50 µm*
Spraying	*under 150 µm*
Wet spraying	*over 150 µm*
Fume/Dust	*0,001 - 0,2 µm*
Aerosol	*0,1 - 50 µm*
Dry fog	*0,2 - 9 µm*
Fog (of aerosols)	*10 - 29 µm*
Light fog/mist	*30/50 - 100 µm*
Fine spray	*100 - 400 µm*
Coarse spray	*over 400 µm*

Speed of fall

The following table informs how long the different large particles of a typical insecticide fog need, in order to sink 3 m in a closed space without air movement. The calculation took place according to the Stoke' formula:

1 µm = 26,5 h.	20 µm = 5 min.
5 µm = 72 min.	30 µm = 2 min.
10 µm = 19 min.	50 µm = 45 sec.
15 µm = 15 min.	100 µm = 11 sec.

Suction hose

Loosen the screw on the lower container connection. Connect detached part (complete with seal) to the adapter (part with long hose at the lower surface (1)). An attached O-ring seal characterizes the suction hose part over the plastic plug.

Pressure hose

Loosen screw from the upper container connection. Connect detached part to the adapter (part without lower hose (2).

Tighten screw connection firmly. The appliance is now ready for use.

Operation

1. Place appliance on the canister. The seal of the can must be freely accessible. The cutaway portion in the appliance frame under the container must stand on the edge of the canister.

2. Unscrew both union nuts of the links on the plastic plug.

3. Insert suction hose of the adapter into the canister and screw plastic plugs on sealing thread of the canister.

4. Bolt both links on the plastic plug. Pay attention to the same colour of nuts and nipples.

Suction hose = brass.
Pressure hose = nickel.
Caution! Do not confuse.

The appliance is now ready for use.

Removal

With the help of a special adapter the fogging product Detmolin can be processed directly from the 25-l-drum.

Owing to the larger hoisting depth the spraying output is smaller; it continues to decrease with sinking preparation level in the canister. Exact performance data must be determined by the user. Because the dosage after time is problematic, it is advisable to atomise only admitted preparation quantities until the canister is empty and to plan plenty of time.

To convert the appliance for this type of application, you need an engineer's wrench SW14.

Adapter